

Listing of Claims

1-10. (Canceled)

11. (Currently amended) A method of inducing maturation of an immature macrophage or an immature dendritic cell that expresses Discoidin Domain Receptor 1 (DDR1), comprising:

contacting the immature macrophage or the immature dendritic cell with an effective amount of a DDR1-activating ~~agent, antibody that specifically binds DDR1,~~ thereby inducing maturation of the immature macrophage or the immature dendritic cell that expresses DDR1.

12. (Currently amended) The method of claim 11, further comprising contacting the immature macrophage or the immature dendritic cell that expresses DDR1, ~~or a precursor thereof,~~ with an agent that up-regulates the expression of DDR1, wherein the agent is granulocyte-macrophage-colony stimulating factor.

13. (Currently amended) The method of claim ~~42~~11, further comprising contacting the immature macrophage or the immature dendritic cell that expresses DDR1 with an agent that up-regulates the expression of DDR1, wherein the agent that up-regulates DDR1 expression comprises ~~granulocyte-macrophage-colony stimulating factor,~~ tumor necrosis factor- α , interleukin-1 β , lipopolysaccharide, phytohemagglutinin, fetal calf serum or a combination thereof.

14-17. (Canceled)

18. (Currently amended) The method of claim ~~47~~11, wherein the antibody ~~comprises~~ is a monoclonal antibody.

19. (Currently amended) The method of claim 11, further comprising contacting the immature macrophage or the immature dendritic cell with ~~an additional~~ a differentiation agent that enhances macrophage or dendritic cell maturation, wherein the differentiation agent is CD40.

20. (Currently amended) The method of claim 19, further comprising contacting the immature macrophage or the immature dendritic cell with a differentiation wherein the additional agent that enhances monocyte or dendritic cell maturation, wherein the differentiation agent comprises tumor necrosis factor- α , lipopolysaccharide, CD40 ligand, or phorbol 12-myristate 13-acetate, or a combination thereof.

21. (Original) The method of claim 11, wherein the immature macrophage or the immature dendritic cell is *in vivo*.

22. (Original) The method of claim 11, wherein the immature dendritic cell or the immature macrophage is *in vitro*.

23. (Currently amended) A method for producing an antigen presenting macrophage or dendritic cell, comprising

contacting an immature monocyte-macrophage or an immature dendritic cell with an agent that activates Discoidin Domain Receptor 1 (DDR1) in the presence of an antigen, wherein the DDR1-activating agent is a DDR1-activating antibody that specifically binds DDR1,

thereby producing an antigen presenting mature dendritic cell or an antigen presenting macrophage.

24. (Previously presented) The method of claim 23, wherein the antigen comprises a protein, a polypeptide, a polysaccharide, a DNA molecule, a RNA molecule, a whole cell lysate, an apoptotic cell, or any combination thereof.

25. (Previously presented) The method of claim 23, wherein the antigen is a viral, bacterial or fungal antigen.

26. (Withdrawn) A method of modifying expression of a cytokine or a chemokine in a subject, comprising:

administering to the subject a therapeutically effective amount of an agent that

specifically binds Discoidin Domain Receptor 1b (DDR1b), thereby modifying the expression of the cytokine or the chemokine in the subject.

27. (Withdrawn) The method of claim 26, wherein administering the agent inhibits or enhances the activation of p38 MAP kinase or Shc.

28. (Withdrawn) The method of claim 26, wherein the subject has a chronic inflammatory disease.

29. (Withdrawn) The method of claim 26, wherein the subject has a tumor.

30. (Withdrawn) The method of claim 26, wherein the cytokine or chemokine comprises interleukin-8, interleukin-10, interleukin-12, macrophage inflammatory protein-1 α , interleukin-1 β , tumor necrosis factor- α , or monocyte chemoattractant protein-1.

31. (Withdrawn) A method of activating a neutrophil or a lymphocyte, comprising activating a Discoidin Domain Receptor 1 (DDR1) signalling pathway in the neutrophil or the lymphocyte, thereby activating the neutrophil or the lymphocyte.

32. (Withdrawn) The method of claim 31, wherein activating the neutrophil or lymphocyte comprises inducing cytokine secretion by the neutrophil or the lymphocyte.

33. (Withdrawn) The method of claim 31, wherein activating the neutrophil or the lymphocyte comprises increasing neutrophil or lymphocyte migration.

34-45. (Canceled)

46. (Withdrawn) The method of claim 31, wherein the neutrophil or lymphocyte is *in vivo*.

47. (Withdrawn) The method of claim 46, wherein the neutrophil or lymphocyte is *in vitro*.

48. (Withdrawn) A method of altering leukocyte migration, comprising:
contacting a leukocyte with an antibody that specifically binds DDR1a,
thereby altering leukocyte migration.

49. (Withdrawn) The method of claim 48, wherein the antibody comprises a monoclonal antibody.

50. (Withdrawn) The method of claim 48, wherein leukocyte migration is decreased.

51. (Withdrawn) The method of claim 48, wherein the leukocyte is *in vivo*.

52. (Withdrawn) The method of claim 48, wherein the leukocyte is *in vitro*.

53. (Withdrawn) The method of claim 48, wherein the leukocyte is a lymphocyte.

54. (Withdrawn) The method of claim 48, wherein the leukocyte is a neutrophil.

55. (Currently amended) The method of claim 11, wherein contacting the immature macrophage or the immature dendritic cell with an effective amount of ~~a~~the DDR1-activating ~~agent-antibody~~ activates intracellular signaling molecules.

56. (Previously presented) The method of claim 55, wherein the activated intracellular signaling molecules comprise p38 MAP kinase or Shc.

57. (Currently amended) The method of claim 11, wherein contacting the immature macrophage or the immature dendritic cell with an effective amount of ~~a~~the DDR1-activating ~~agent-antibody~~ up-regulates chemokines or cytokines.

58. (Currently amended) The method of claim ~~1911~~, ~~wherein the additional~~further comprising contacting the immature macrophage or the immature dendritic cell with a differentiation agent that enhances monocyte or dendritic cell maturation, wherein the differentiation agent comprises interleukin-4 or granulocyte-macrophage-colony stimulating stimulating factor, or a combination thereof.

59. (Currently amended) The method of claim ~~2012~~, ~~further comprising contacting the immature macrophage or the immature dendritic cell with a differentiation agent that enhances macrophage or dendritic cell maturation,~~ wherein the ~~additional differentiation agent~~ that enhances monocyte or dendritic cell maturation is CD40.

60. (New) A method of inducing maturation of an immature macrophage or an immature dendritic cell that expresses Discoidin Domain Receptor 1 (DDR1), comprising contacting the immature macrophage or the immature dendritic cell with an effective amount of:

(i) a DDR1-activating agent, wherein the activating agent is a DDR1-activating antibody that specifically binds DDR1;

(ii) an agent that up-regulates the expression of DDR1, wherein the agent is a granulocyte-macrophage-colony stimulating factor; and

(iii) a differentiation agent, wherein the differentiation agent is CD40, thereby inducing maturation of the immature macrophage or the immature dendritic cell that expresses DDR1.